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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,415	11/28/2003	Visvesvaraya A. Pentakota	TI-36970	7397
23494	7590	06/28/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED			CHO, JAMES HYONCHOL	
P O BOX 655474, M/S 3999				
DALLAS, TX 75265			ART UNIT	PAPER NUMBER
			2819	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/722,415	PENTAKOTA ET AL.	
	Examiner	Art Unit	
	James Cho	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 15, 19-26, 35 and 39-53 is/are rejected.
- 7) ☒ Claim(s) 7-14, 16-18, 27-34 and 36-38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Drawings***

Figure 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 20 and 40 are objected to because of the following informalities: it appears that claim 20 should be dependent on claim 19 instead of claim 1, and claim 40 should be dependent on claim 39 instead of claim 21.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 19-20, 39-40 and 52-53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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In claims 19 and 39, the limitation, "using which said first value and said second value are received" while describing the strength is changed during which is substantially more than 15% of a clock cycle duration is unclear whether the phrase means the duration of which first and second value is received or it means the value.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 - are rejected under 35 U.S.C. 102(e) as being anticipated by Lee (US PAT No. 6,617,897).

Regarding claims 1, 21, 44, and 48, Fig. 3 of Lee teaches an integrated circuit, a device, an apparatus or a method of processing a transition from a first value (logic high) to a second value (logic low) where the first value is not equal to the second value comprising: an output buffer (32) receiving the first value followed by the second value, wherein the first value is not equal to the second value; and a control block (31, SWP, SWN, CP, IP, IN, VN) changing a strength of the output buffer gradually while the output buffer provides the second value as a buffer output (slew rate is being changed which inherently changes the strength of the output buffer gradually as slew rate gets slower).

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Regarding claims 2 and 22, Fig. 3 of Lee teaches the integrated circuit of claims 1 and 21, wherein the output buffer comprises a drive transistor (Mp, MN), and wherein the control block comprises a capacitor (CP) provided at a gate terminal of the drive transistor (MP); and a current source (IP) for altering the total charge on the capacitor slowly to change the strength gradually (col. 4, lines 61-67).

Regarding claims 3 and 23, Fig. 3 of Lee teaches the integrated circuit of claims 2 and 22, wherein the capacitor comprises a gate capacitance of the drive transistor (drive transistors MP and MN has inherently intrinsic capacitance).

Regarding claims 6 and 26, Fig. 3 of Lee teaches the integrated circuit of claims 2 and 22 where the drive transistor comprises a PMOS transistor (MP) where the current source discharges the capacitor to control the drive strength when the second value is greater than the first value (col. 4, lines 1-4).

Regarding claims 15 and 35, Fig. 3 of Lee teaches the integrated circuit of claims 2 and 22 where the drive transistor comprises a NMOS transistor (NP) where the current source charges the capacitor to control the drive strength when the second value is less than the first value (col. 4, lines 4-7).

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Regarding claim 41, Fig. 3 of Lee teaches the device of claim 21 where the device further comprises a load receiving the buffer output (VO output data of Fig. 3 requires inherently to be outputted to a load as shown in Fig. 1; col. 1, lines 14-26).

Regarding claim 42, Fig. 3 of Lee teaches the device of claim 41 where the load comprises a transmission line (the line between inverters in Fig. 1).

Regarding claims 45 and 49, Fig. 3 of Lee teaches the apparatus of claims 44 and 48 where the output buffer comprises an inverter containing a transistor (MP, MN) where the means for changing alters slowly an amount of charge on a capacitor (CP, CN) provided at a gate terminal of the transistor (col. 4, lines 1-14).

Regarding claims 46 and 50, Fig. 3 of Lee teaches the apparatus of claim 45 and 49, where the capacitor comprises a gate capacitance (drive transistors MP and MN has inherently intrinsic capacitance).

Regarding claims 47 and 51, Fig. 3 of Lee teaches the apparatus of claims 45 and 49, where the means for changing comprises a current source to perform the altering (col. 4, lines 48-67).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-5, 24-25 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee.

Regarding claims 4-5 and 24-25, Fig. 3 of Lee teaches the integrated circuit of claims 2 and 22, but does not disclose one of the plurality of inverters comprising the drive transistor where the drive transistor is contained in a last one of the plurality of inverters. However, Fig. 1 of Lee shows a set of inverters coupled in series. Therefore, it would have been obvious to a person ordinary skilled in the art to utilize the output circuit as shown in Fig. 3 in one or the last one of the inverters coupled in series as shown in Fig. 1 in order to control the slew rate of the output voltage.

Regarding claim 43, Fig. 3 of Lee teaches the device of claim 21, but does not disclose the device comprising a wireless base station, an antenna receiving an external signal and an analog processor processing the external signal to generate the first and the second value. However, the limitation is merely intended use of the device recited in claim 21 and it has been held that a recitation directed to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Allowable Subject Matter

Claims 7-14, 16-18, 27-34 and 36-38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Although Lee teaches an output circuit for adjusting output voltage slew rate, one of ordinary skill in the art would not have been motivated to modify the teaching of Lee. to further includes, among other things, the specific of a voltage adjusting block determining a total strength to be applied to the drive transistor when the second value is greater than the first value and providing a PCTRL signal representing the total strength as set forth in the claims 7 and 27, and the specific of a voltage adjusting block determining a total strength to be applied to the drive transistor when the second value is less than the first value and providing a NCTRL signal representing the total strength as set forth in the claims 16 and 36.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Eichfeld et al. (US PAT No. 6,777,974) discloses a method for adjustment of the slop times for driver circuits.

Dowlatabadi(US PAT No. 6,271,699) discloses a driver circuit for controlling transition time of a signal.

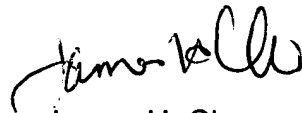
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Cho whose telephone number is 571-272-1802.

The examiner can normally be reached on M-F 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


James H. Cho
Primary Examiner
Art Unit 2819

June 20, 2005